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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,331	12/31/2003	Tod Duane Hill	K-2015	8201

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EXAMINER

KRECK, JOHN J

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/749,331

Applicant(s)

HILL ET AL.

Examiner

John Kreck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-10, 13-17, 27, 31-34, and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Sulosky, et al. (U.S. Patent number 5,647,641). Note that the term “core breaker” is interpreted broadly; the claims do not call for any specific structure to further limit the claims (e.g. an arcuate shape or location mediate cutting drums as in claim 18). It is apparent that the Sulosky device is capable of breaking cores.

See, in particular, sheets 3 and 9 of the drawings. Sulosky shows the core breaker comprising a support containing at least one bore, the bore having a forward frustoconical wall and a rearward cylindrical wall having a groove; and an elongate cutting tool with shank and resilient retainer as called for in claim 1.

Sulosky teaches the plurality of bores as called for in claim 2.

Sulosky teaches the plurality of tools as called for in claim 3.

Sulosky teaches the plurality of rows (figure 5) as called for in claim 4.

Sulosky teaches the rotatable replaceable tool as called for in claim 5.

Sulosky teaches the hard tip as called for in claim 6.

Sulosky teaches the tip is sharp as called for in claim 7.

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Sulosky teaches the frustoconical shoulder and wall in contact as called for in claim 8.

Sulosky teaches the puller groove as called for in claim 9.

Sulosky teaches the shank in close proximity to the bore wall as called for in claim 10.

Sulosky teaches the closely adjacent as called for in claim 13.

Sulosky teaches the contact as called for in claim 14.

Regarding independent claim 15:

Sulosky shows the support including the bore as called for in claim 15.

Sulosky teaches the plurality of bores as called for in claim 16.

Sulosky teaches the plurality of rows as called for in claim 17.

Regarding independent claim 27:

Sulosky teaches a support containing a plurality of bores, each of the bores having an axial forward frustoconical wall and a rearward cylindrical wall; the axial rearward wall having a groove; a rotatable cutting tool including a forward end and rearward end, head and shank, shoulder, and reduced diameter portion in the shank; a resilient retainer and the retainer received in the groove as called for in claim 27.

Regarding independent claim 31:

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Sulosky shows the support having at least one bore and elongate tool as called for in claim 31.

Sulosky teaches the hard tip as called for in claim 32.

Sulosky teaches the sharp tip as called for in claim 33.

Sulosky shows the included angle as called for in claim 34.

Regarding independent claim 37:

Sulosky shows the support having at least one bore and elongate tool having a sharp tip as called for in claim 37.

Sulosky shows the included angle as called for in claim 38.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sulosky, et al. Sulosky shows cutting tools which appear to have dimensions within the claimed ratios. If it is deemed that the Sulosky tools do not anticipate the claimed ratios, then it would have been obvious to one of ordinary skill in the art at the time of the invention to have used tools with the claimed ratios; since such tools are widely available.

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3. Claims 18-26, 28-30, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerer, et al. (U.S. Patent number 6,315,365) in view of Kennametal "Cutting and Drilling Systems"

Gerer teaches a earth strata cutting assembly comprising at least a pair of cutting drums and a core breaker mediate the drums; the core breaker comprising a support; an elongate cutting tool ("parallel shank tool" 6) attached to the support. Gerer fails to disclose the details of the mounting of the cutting tools to the support; and thus fails to teach the bore, groove, and resilient retainer.

Kennametal teaches similar cutting tools (e.g. pp 34, 35) which fit in bores with cylindrical and frustoconical walls and groove; and which include reduced diameter portion with resilient retainer. These cutting tools are common and have well known advantageous features: the tool is removable, and easily replaceable if broken; the cylindrical and frustoconical wall portions are advantageous because the frustoconical portion allows for easier insertion of the tool in the bore, while the cylindrical portion provides for shank strength; the combination of the groove, reduced diameter portion and resilient retainer are used to secure the tool in the bore, while allowing for easy removal if broken.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the Gerer device with bores having cylindrical and frustoconical walls and groove; and cutting tool with reduced diameter portion and resilient retainer as called for in claim 18; since this would have allowed for easy removal of the tool, if

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broken, while simultaneously allowing for easy insertion and securing the tool in position.

With regards to claim 19: Gerer is silent as to whether the tool is rotatable. Rotatable cutting tools, such as shown by Kennametal, are well known to be advantageous because they wear more evenly. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a rotatable tool.

Gerer teaches the plurality of cutting tools as called for in claim 20.

The Kennametal reference teaches the hard tip as called for in claim 21.

The Kennametal reference teaches the contact as called for in claim 22.

The Kennametal reference teaches the tool retained as called for in claim 23.

The Kennametal reference teaches the contact as called for in claim 24.

The Kennametal reference teaches the size ratios as called for in claim 25.

The Kennametal reference teaches the size ratios as called for in claim 26.

Regarding independent claim 28:

Gerer teaches a earth strata cutting assembly comprising at least a pair of cutting drums and a core breaker mediate the drums; the core breaker comprising a support; an elongate cutting tool ("parallel shank tool" 6) attached to the support. Gerer fails to disclose the details of the mounting of the cutting tools to the support; and thus fails to teach the bore, groove, and resilient retainer. Gerer also shows a single row of cutting tools, not a plurality of rows

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Kennametal teaches similar cutting tools (e.g. pp 34, 35) which fit in bores with cylindrical and frustoconical walls and groove; and which include reduced diameter portion with resilient retainer. These cutting tools are common and have well known advantageous features: the tool is removable, and easily replaceable if broken; the cylindrical and frustoconical wall portions are advantageous because the frustoconical portion allows for easier insertion of the tool in the bore, while the cylindrical portion provides for shank strength; the combination of the groove, reduced diameter portion and resilient retainer are used to secure the tool in the bore, while allowing for easy removal if broken.

With regards to the plurality of rows; courts have held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the Gerer device with bores having cylindrical and frustoconical walls and groove; and cutting tool with reduced diameter portion and resilient retainer and to have a plurality of rows as called for in claim 28; since this would have allowed for easy removal of the tool, if broken, while simultaneously allowing for easy insertion and securing the tool in position.

The Kennametal reference teaches the size ratios as called for in claim 29.

The Kennametal reference teaches the size ratios as called for in claim 30.

Regarding independent claim 35:

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Gerer teaches a earth strata cutting assembly comprising at least a pair of cutting drums and a core breaker mediate the drums; the core breaker comprising a support; and an elongate cutting tool ("parallel shank tool" 6) attached to the support. Gerer fails to disclose the details of the mounting of the cutting tools to the support; and thus fails to teach the bore, and rotatability.

Kennametal teaches similar cutting tools (e.g. pp 34, 35) which are rotatable and fit in bores with cylindrical and frustoconical walls and groove; and which include reduced diameter portion with resilient retainer. These cutting tools are common and have well known advantageous features: the rotatability allows for even wear; the tool is removable, and easily replaceable if broken; the cylindrical and frustoconical wall portions are advantageous because the frustoconical portion allows for easier insertion of the tool in the bore, while the cylindrical portion provides for shank strength; the combination of the groove, reduced diameter portion and resilient retainer are used to secure the tool in the bore, while allowing for easy removal if broken.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the Gerer device with bores and rotatable cutting tool as called for in claim 35; since this would have allowed for easy removal of the tool, if broken, while simultaneously allowing the tool to wear evenly.

With regards to claim 36: Gerer fails to teach the details of the walls, groove, and resilient retainer. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used bores with frustoconical and cylindrical walls, groove,

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and resilient retainer as called for in claim 36, and as taught by Kennametal; in order to allow for easy insertion and securing the tool in position.

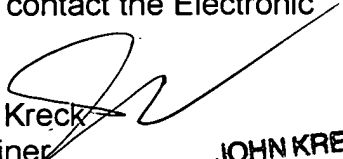
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sauer, et al. (U.S. Patent number 6,343,842) is cited for showing a structurally similar device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 5:30 am - 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John Kreck
Examiner
Art Unit 3673


JOHN KRECK
PRIMARY EXAMINER

JJK